AMENDMENTS TO THE CLAIMS

1-19. (Canceled)

20. (Currently Amended) A method for a first member in a group within a graph of interconnected peer nodes to renew a certificate granting privileges, the method comprising:

receiving a certificate renewal request at a second member in the group from the first member;

requesting by the second member authorization from an administrator different from the second member for renewing the certificate, the renewing based on the authorization from the administrator or based on one or more security policies.

21. (Original) The method of claim 20 wherein the renewal is based on the security policies if the authorization from the administrator is not received.

22. (Currently Amended) A method for a member in a group within a graph of interconnected peer nodes to renew a certificate granting privileges, the method comprising:

receiving a request to renew the certificate, wherein the certificate is ~~that was~~ published in a graph database; and

performing renewal of the published certificate according to an authorization from an administrator or based on one or more security policies.

23. (Original) The method of claim 22 wherein the renewal is performed online, the method further comprising:

contacting one or more authorized members with a shorter chain in the graph of interconnected nodes before contacting authorized members with a longer chain in the graph of interconnected nodes; and

performing one or more renewal attempts to achieve a chain that is of shorter length, wherein number of renewal attempts are proportional to length of the chain; and if a chain is beyond a predetermined length, performing an offline renewal to shorten the chain.

24. (Original) The method of claim 22 wherein the renewal is repeated if a shorter chain can be achieved.

25. (Previously Presented) The method of claim 22 wherein more than one authorized member is the group is active, each authorized member in the group enabled to process the renewal request, the method further comprising:

providing each authorized member in the group with a random back-off period prior to attempting to process the renewal request, the random back-off proportional to a length of the chain of the authorized member.

26. (Currently Amended) A method for ensuring that a publisher of information in a record to a secure group in a graph of interconnected nodes has authority to publish to the secure group, the method comprising:

creating a token for the publisher, the token containing information located in a role assigned to the publisher, the role identifying privileges of the publisher; and

matching the token against a security descriptor for the record to be published, the security descriptor providing a list of rights associated with each role, wherein the token is published in a graph database, the graph database ~~providing~~ makes available security related information including the published token to each member of the secure group.

27. (Canceled)

28. (Previously Presented) The method of claim 26 wherein the graph database enables deferred record validation by enabling a group member to defer until required security information is available to the group member.

29. (Original) A method for revoking a member of a group of interconnected nodes within a graph, the method comprising:

publishing a revocation record to the group, the revocation record identifying the member; and

revoking any records published by the member according to the revocation record.

30. (Original) The method of claim 29 wherein the revocation record is published with validation time sufficient to ensure that a current certificate of the revoked group member expires before the revocation.

31. (Original) The method of claim 29 wherein if the member to be revoked is an administrator, the administrator privileges are first deprecated prior to the publishing the revocation record.

32. (Original) A method for revoking one or more members of a group of interconnected nodes within a graph, the method comprising:

identifying one or more bits in a revocation bit map, the bits associated with one or more serial numbers, the one or more serial numbers identifying the one or more members of the group; and

altering the one or more bits in the revocation bit map, the altering revoking the one or more members of the group.

33. (Original) The method of claim 32 wherein the revocation bit map is scalable.

34. (Currently Amended) A computer-readable medium having computer-executable instructions to perform acts for a first member in a group within a graph of interconnected peer nodes to renew a certificate granting privileges, the computer-executable instructions performing acts comprising:

receiving a certificate renewal request at a second member in the group from the first member;

requesting authorization by the second member from an administrator different from the second member for renewing the certificate, the renewing based on the authorization from the administrator or based on one or more security policies.

35. (Original) The computer-readable medium of claim 34 wherein the renewal is based on the security policies if the authorization from the administrator is not received.

36. (Currently Amended) A computer-readable medium having computer-executable instructions to perform acts for a member in a group within a graph of interconnected peer nodes to renew a certificate granting privileges, the computer-executable instructions performing acts comprising:

receiving a request to renew the certificate, wherein the certificate is ~~that was~~ published in a graph database; and

performing renewal of the published certificate according to an authorization from an administrator or based on one or more security policies.

37. (Original) The computer-readable medium of claim 36 wherein the renewal is performed online, the computer-executable instructions further performing acts comprising:

contacting one or more authorized members with a shorter chain in the graph of interconnected nodes before contacting authorized members with a longer chain in the graph of interconnected nodes; and

performing one or more renewal attempts to achieve a chain that is of shorter length, wherein number of renewal attempts are proportional to length of the chain; and

if a chain is beyond a predetermined length, performing an offline renewal to shorten the chain.

38. (Original) The computer-readable medium of claim 36 wherein the renewal is repeated if a shorter chain can be achieved.

39. (Previously Presented) The computer-readable medium of claim 36 wherein more than one authorized member is the group is active, each authorized member in the group enabled to process the renewal request, the method further comprising:

providing each authorized member in the group with a random back-off period prior to attempting to process the renewal request, the random back-off proportional to a length of the chain of the authorized member.

40. (Currently Amended) A computer-readable medium having computer-executable instructions to perform acts for ensuring that a publisher of information in a record to a secure group in a graph of interconnected nodes has authority to publish to the secure group, the computer-executable instructions performing acts comprising:

creating a token for the publisher, the token containing information located in a role assigned to the publisher, the role identifying privileges of the publisher; and

matching the token against a security descriptor for the record to be published, the security descriptor providing a list of rights associated with each role, wherein the token is published in a graph database, the graph database ~~providing~~ makes available security related information including the published token to each member of the secure group.

41. (Canceled)

42. (Original) The computer readable medium of claim 40 wherein the graph database enables deferred record validation by enabling a group member to defer until required security information is available to the group member.

43. (Original) A computer-readable medium having computer-executable instructions to perform acts for revoking a member of a group of interconnected nodes within a graph, the computer-executable instructions performing acts comprising:

publishing a revocation record to the group, the revocation record identifying the member; and

revoking any records published by the member according to the revocation record.

44. (Original) The computer-readable medium of claim 43 wherein the revocation record is published with validation time sufficient to ensure that a current certificate of the revoked group member expires before the revocation.

45. (Original) The computer-readable medium of claim 43 wherein if the member to be revoked is an administrator, the administrator privileges are first deprecated prior to the publishing the revocation record.

46. (Original) A computer-readable medium having computer-executable instructions to perform acts for revoking one or more members of a group of interconnected nodes within a graph, the computer-executable instructions performing acts comprising:

identifying one or more bits in a revocation bit map, the bits associated with one or more serial numbers, the one or more serial numbers identifying the one or more members of the group; and

altering the one or more bits in the revocation bit map, the altering revoking the one or more members of the group.

47. (Original) The computer-readable medium of claim 46 wherein the revocation bit map is scalable.